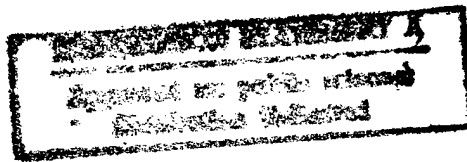


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# Worldwide Report

TELECOMMUNICATIONS POLICY,  
RESEARCH AND DEVELOPMENT

No. 236

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1 September 1982

WORLDWIDE REPORT  
TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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MINISTER EXPOUNDS FEDERAL COMMUNICATIONS POLICY

Canberra THE AUSTRALIAN in English 1 Jul 82 p 2

[Article by Nicholas Rothwell]

[Text]

THE Federal Government expects private industry to accept much of the cost of developing telecommunications technology, the Minister for Communications, Mr Brown, said in Sydney yesterday.

In his first major policy speech, Mr Brown told a business seminar that the Government could "only do so much". The seminar is considering commercial opportunities offered by such technology.

He called for wider involvement of the private sector in communications.

Government would assist private developers if it received clear presentations and submissions for projects, based on "facts and figures".

Mr Brown said he was not pre-empting the three major government inquiries into communications that were shortly to be presented to Parliament: commissions inquiring into the operations of the postal service, telecommunications and cable, and subscription television.

"These three major reports could well herald important changes in the way these services are structured and organised," he said.

Rapid changes were taking place in telecommunications, a field that affected all Australians, and governments had a responsibility to ensure that any developments were introduced in a manner consistent with broad legislation and policy.

The inquiry into telecommunications could provide a blueprint for decision-making and the formation of national policies in this field.

The three inquiries were inter-related.

Decisions made as a result of them would establish the environment for Australia's move into the field of satellite communications.

"The satellite is a very important first step as far as Australia's domestic communications are concerned," Mr Brown said.

"Although the emphasis until now has been on the benefits of the system to the rural community, it will be crucial in aviation communications and will serve all parts of the population."

The Aussat company established to operate the domestic satellite system, was expected to begin paying its way shortly after the satellite began earning revenue in 1986.

The advance of technology would create more jobs than it destroyed, he said.

The Opposition spokesman on industrial relations, Mr Hawke, told the seminar that the introduction of new technology would cause serious unrest in industrial relations unless there was an immediate and radical revision in the way it was introduced.

He said the jobs of women were particularly at risk as a result of the phasing in of labor-saving equipment, and this problem would remain until discrimination against

women in the educational system was ended.

A radical reform of the education system was essential because it was the low-skill, temporary jobs done by women that were most at risk.

Mr Hawke said the ALP had not "set its face against the new technology" but warned that the rapid introduction of new processes was likely to be a source of increasing industrial unrest.

There have been a lack of consultation by management with workers about the speed of introduction and the Government should sponsor a test case before the Arbitration Commission to establish minimum standards in this area.

The trend towards a two-level workforce made up of unstable, low-paid and unskilled workers and a high-paid technological elite was already apparent in Australia.

"The prospects are anything but causes for optimism, since in a high unemployment economy there is little protection for the worker and unlike the other major industrialised countries we have no national legislation protecting the workforce," Mr Hawke said.

CSO: 5500/7556

LABOR PARTY PLATFORM ON COMMUNICATIONS STRESSES TECHNOLOGY

Sydney THE SYDNEY MORNING HERALD in English 6 Jul 82 p 12

[Text]

CANBERRA. — Greater attention to new technology and a financial boost for statutory authorities such as Telecom are to be part of the ALP's new platform on communications.

The policy will ensure that private enterprise cannot buy profitable areas of Telecom and it will be allowed to compete with new services such as videotext.

Communications spokesman Senator John Button said the substantially redrafted platform recognised that communications were at the cutting edge of all new technology.

The other factor clearly reflected in the platform was that communications had recently become very profitable and for the first time private enterprise was taking an interest.

Another main objective would

be to "prevent socially and economically undesirable attempts" to dismember Telecom and Australia Post. Current restraints on Telecom in borrowing money would be removed.

The policy also repeats its previous call for as large a diversity of media sources as possible and monopoly ownership being restricted.

Special assistance would be provided towards the publication, printing and distribution of newspapers, books, magazines and other printed material fully produced in Australia.

Studies would be carried out on the feasibility of fostering the establishment of a newspaper, independent of both Government and existing private interests, and owned by those who produce it.

In the telecommunications field, the platform calls for the preservation of a single publicly owned system including terrestrial and satellite components and all cable systems.

CSO: 5500/7556



NEW, LOWER PRICED, TELECOM-APPROVED MODEM OFFERED

Perth THE WEST AUSTRALIAN in English 30 Jun 82 p 62

[Text]

**THAT irrepressible Dick Smith has dealt another slap in the eye to the computing establishment by releasing a Telecom-approved data modem for less than half the price of any other available in Australia.**

Modems are the gadgets which allow audible tones, usually from a telephone, to be turned into the digital form which the computer can understand (and vice versa); hence they are an integral part of the new "dial-in" services to huge data banks.

With modems costing about \$800 a year to lease from Telecom—more than the cost of some personal computers—or \$400 to buy, Dick Smith spotted a rare opportunity for some dramatic price undercutting.

"It was obvious that the communications revolution wasn't ever going to get under way in Australia until people could buy a really low cost modem," the entrepreneur said.

"I've always been pretty lukewarm about manufacturing electronic equipment in Australia, but I'm so

confident about this new modem that we're gearing up to make it in big numbers."

The new Dataphone modem, which costs \$169, is not an acoustic-coupled type but a directly connected device.

Its designer, Mr Jim Rowe, selected this approach because it offered the only way to achieve high performance and reliability at a low price.

"The problem with acoustic couplers is that, no matter how good they are, the end result still depends heavily on the rather antiquated carbon-granule microphone used in most Australian telephones," Mr Rowe explained.

"Direct connection bypasses the carbon mike altogether and makes it much easier to provide a high level of performance and reliability."

QUESTIONS ON TELECOM ROLE ADDRESSED IN DAVIDSON STUDY

Perth THE WEST AUSTRALIAN in English 7 Jul 82 p 62

[Text]

**AUSTRALIA is caught in a worldwide revolution in telecommunications which is leading to an explosive growth in the production, storage, processing and transmission of information.**

This revolution is expected to set in motion social change which, while at present dimly perceived, could be as profound as the invention of the printing press.

The modern-day revolution, irrespective of social consequences, is already a highly profitable area of investment for those who know what they are doing.

Of course, one of the reasons the rate of return is so high is that the Government has severely restricted Telecom's access to the Australian capital market so that it is able to undertake only the most profitable projects.

Clearly private corporations with the necessary technological capabilities would like a slice of the market, which is presently denied them through regulation.

The Federal Government decided to exclude Telecom from the videotex system of providing information such as classified ads, or department store bargains, through the home television receiver,

in spite of universal departmental advice to the contrary.

In spite of the exclusion of Telecom in favour of the Packer publishing and television and the Myer retailing interests, they have not been able to set up the Prestel videotex system as planned and promised.

It now appears that Telecom, because of its expertise, will have to be involved in the operation of the Prestel system.

A crucial factor in the final carve-up of Australian telecommunications between public and private interests will be the report of the Davidson committee into telecommunications services.

The three key submissions to the Davidson inquiry are from the Treasury, Department of Finance and Telecom.

Interestingly, neither submission makes a strong case for the exclusion of Telecom from the new services being opened up.

The Department of Finance said: "While

Telecom should not be necessarily excluded from participating in any area of telecommunications activity in future, the onus should be placed on those who would oppose greater private sector involvement to demonstrate the benefits that would accrue from the expansion of Telecom's activities."

According to the Department of Finance, where it was found competition was warranted, a tax-paying subsidiary would be set up to operate at arms length from Telecom to ensure Telecom did not indulge in cross-subsidisation and predatory pricing.

Treasury said it thought Telecom should be confined to providing a basic service and excluded from the new growth ahead.

If these views prevail, Telecom will be left to maintain the basic service which is almost in place.

So who would take over the explosive growth in telecommunications associated with the information revolution?

To read the departmental submissions, the impression is created that hundreds of entrepreneurs will be jostling for a place in a perfectly competitive market.

In fact, if Telecom is excluded from the market it will be dominated by five or six multinationals led by IBM and ITT.

The overall thrust of the Telecom submission to the Davidson committee seems to be a general confidence that it can compete successfully against the private sector in the new areas of telecommunications because of the existence of the natural monopoly.

CSO: 5500/7556

ABC STAFF SEES PUBLIC SERVICE CONTROLS CONTINUING

Melbourne THE AGE in English 8 Jul 82 Green Guide p 1

[Article by Kevin Childs]

[Text] THE stranglehold of public servants on the ABC remains in spite of the "cosmetic" changes announced in Canberra this week.

This is the reaction of the 4000-strong ABC Staff Association, which represents 90 per cent of ABC staff. And its secretary, Mr Nick Collis-George told Green Guide: "We are now lucky to stay on the air most nights."

He said that half of the technical staff had left the ABC since 1975 and not been replaced.

"What we are seeing is a war of attrition: the staff is down by 1000 in six years and the budget is down in that time by 28 per cent in real terms."

Although it is removed from direct Public Service control, the ABC must still provide details on its plans to allocate its resources. Mr Collis-George described this as a "con" which continued the control by public servants.

He was supported by James Dibble, the ABC newsreader and Staff Association Federal president, who said that the ABC's technological strength had been eroded by skilled staff moving to better paid jobs in commercial televisions.

Those remaining faced a heavier workload and frustrated attempts to achieve more pay.

"Despite managerial agreement with the justice of their claims, their efforts have been continually blocked by the co-ordinating committee," Mr Dibble said. "We cannot see this position changing..."

Mr Collis-George said that ABC managers had told him that they could no longer effectively manage the ABC because of Public Service controls.

Doubts also surround the statement by the ABC that it had no plans to use the newspapers' news agency, Australian Associated Press (AAP), although entitled to do so by the Government's latest decision.

Mr John Lawrence, Federal president of the Australian Journalists' Association, which opposes the move, said that the temptation to use AAP instead of ABC reporters on some news would be irresistible.

WORK ON FIRST LOCAL MICROCHIP PLANT TO START IN 1984

Canberra THE AUSTRALIAN in English 5 Jul 82 p 17

[Article by Philip Beard]

[Text]

CANBERRA'S plant for making computer chips, indefinitely deferred earlier this year, looks like coming out of mothballs.

Work on the \$150 million wafer fabrication plant, Australia's first major microchip manufacturing operation, is expected to start in 1984, the Minister for the Capital Territory, Mr Hodgman, said.

In March, the company operating the proposed plant at Bruce, National Semiconductor Corp, announced that because of a downturn in demand, the project would be suspended indefinitely.

But, speaking in London yesterday, Mr Hodgman said executives of the California-based group had told him that an upturn in market conditions meant work could start in the next 18 months to two years.

Mr Hodgman said Natsemi was confident that "Australia would be first cab off the rank in any of the company's overseas expansion".

The plant, which would directly employ 1200 people, would go into production in 1986-87, about two years later than planned.

The project has attracted some controversy because of the Federal

Government's decision to provide land and buildings worth \$20 million to enable operations to start.

Mr Hodgman defended the decision, pointing out that the plant would directly and indirectly create more than 2000 new jobs in the Canberra area, and could be the start of a high-technology industry, with employment prospects for up to 100,000 people before the turn of the century.

The minister said this would be bigger than the textile, clothing and footwear industries, or equal to the motor vehicle industry.

It is understood that Australia beat Israel and Ireland to the Natsemi investment.

Mr Hodgman, who is looking at bringing international high technology investment into Australia in his role as Minister Assisting the Industry and Commerce Minister, Sir Phillip Lynch, said that the Los Angeles-based Hughes Aircraft Co and the Canadian-based telecommunications group, Mitel, were interested in setting up operations in Australia.

Hughes is already supplying sophisticated components for the domestic communications satellite.

CSO: 5500/7556

## BRIEFS

CSIRO ON SATELLITE STATION--CANBERRA--The upgrading of a Federal Government satellite receiving station could lead to windfall profits through the discovery of fishing grounds and mineral deposits, a CSIRO official said yesterday. The chief of the CSIRO division of mineral physics, Dr Ken McCracken, said improvements to the Government's Landsat station at Alice Springs were essential to obtain information from new satellites. He said the \$6.5 million cost was a "bargain basement price". Private industry groups have also urged the Government to commit money to the improvements in the August Budget. They have said that without them the station will not receive signals from an advanced resource satellite to be launched by the US in July. [Melbourne THE AGE in English 30 Jun 82 p 5]

TELECOM JOB LOSSES--HUNDREDS of people have lost jobs at Telecom because of new technology, the Labor Party said yesterday. The Leader of the Opposition in the Senate, Senator Button, said in Canberra that many more in rural areas were affected by the switch. He said that 1350 jobs had been lost at Telecom through new technology since 1976. Senator Button, Labor's spokesman on communications and rural development said only 200 of those displaced had been found other government jobs. But the job loss in country centres would have been greater, he said. "People in country towns and cities, whose employment would have been affected either directly or indirectly, would have run into many hundreds," he said. [Canberra THE AUSTRALIAN in English 8 Jul 82 p 36]

SATELLITE TV FROM U.S.--WASHINGTON, Wed--Australians will soon be able to watch the best of America's television programmes beamed direct by satellite. Under an agreement between a U.S. Satellite communications company and Australia's Seven television network, news, feature programmes and cable television will be transmitted to Sydney 24 hours a day. The Communications Satellite Corporation (Comsat) said that the Seven network building would build a Los Angeles studio as part of the satellite service. According to a Comsat statement, the agreement provides for U.S. programmes to be transmitted from an earth station in Santa Paula, California, to a spare Pacific Ocean region satellite owned by the International Telecommunications Satellite Organisation (Intelsat). "The satellite, located in geo-stationary orbit 35,000km in space, will transmit the signal directly to an earth station near Sydney, and from there it will be sent to Channel Seven's broadcast centre," the statement said. The service is scheduled to start within about seven months after approval by the Federal Communications Commission. A spokesman for TVW-7 in Perth said that the station was an independent company and not party to the agreement. It might be approached later to join the service, he said. [Perth THE WEST AUSTRALIAN in English 8 Jul 82 p 36]

CNIE PRESIDENT ON STUDY, DESIGN OF DOMESTIC SATELLITE

Buenos Aires AEROSPACIO in English Jan-Feb 82 pp 24-31

[Article by Miguel Sanchez Pena, brigadier general, retired; president of the National Commission for Space Research]

[Excerpt] In Argentina, the responsible national agency--CNIE--joined efforts with universities and other institutes in order to undertake, as from 1962, some experiments with two types of space platforms: sounding-rockets and stratospheric balloons, each one offering both advantages and disadvantages. To evaluate these tasks the following factors must be taken into account: duration of the measurements, --days, hours, minutes--, data repetition, command and control of the space area where the measurements take place, costs and other parameters.

As from that date, using those space platforms, experiments in aeronomy, ionosphere, astronomy, meteorology, radio-propagation, remote sensors, photography, etc., were carried out from Chamical, Mar Chiquita, Parana, Mendoza, Chaco, in the Continent; from the Matienzo and Vicecomodoro Marambio Antarctic Air Force Bases and from the Punta Lobos Base, near Lima, Peru, where the Castor Peru test took place. All this gave rise to the development of an infrastructure, a consciousness, as well as the human resources, which prompted the consideration of a space satellite platform.

Today the activities which relate space techniques to their effects and results have been fully realized and incorporated to nations' common patrimony, even in developing countries. Our country was no exception to the world-wide interest awakened by this type of research, and from the beginning CNIE envisaged the project of an Argentine satellite. Circumstances did not always propitiate the rapid advances contemplated by CNIE, but ever-renewed enthusiasm helped to keep hopes alive until it became possible to materialize the envisaged plans.

The tasks developed by CNIE since its creation, and the projects implemented thanks to the persistent arduous work of its technicians, have led this Organization to speed up the study of the design of a domestic satellite, which has been recently assigned on an encouraging priority. The mere presentation of a project is not enough for it to be carried out; the scientists' decision must be closely supported; furthermore, it should always be preceded by a political decision that shall make it possible for the economic-financial area to support the implementation of the project. In this sense there are still some

steps to be taken which demand deep consideration since once the program is started it must not be interrupted until its completion. Through CNIE, the Air Force has already defined its views about the outline of the project and its continuity. It is now mandatory to coordinate the different factors and agencies which must necessarily participate in this enterprise which commits the reputation of our space agency. CNIE is conscious of how essential a steady scientific development is, since stopping means going backwards. For that reason, the priority assigned to the satellite project finds its justification therein.

CNIE considers that the attainment of an executive capability in the artificial satellite field is of the same character as that of other technologies; in the long run, they are assets subject to trade dealings which end by affecting the balance of trade of the states forced to resort to foreign aid. We realize that we cannot do without imported learning, but we are also conscious that our country is in a position which enables us to reduce this requirement, since we have useful knowledge available for this project. The problem is to ascertain first our creative skills and the technologies we master and next, the complementary need for importation.

The shaping of a scientific and technical infrastructure, as well as the development of human resources, calls for a costly and lengthy task measured in terms of years of important investments and hard updating work. The experiments already mentioned, the post-graduate courses organized in Argentina, the assistance of foreign experts who delivered them, the training timetable national aims and capacities which shall be conveniently supported by intellectual and material resources arising from the requirements derived. Mutual interaction of those factors will unavoidably encourage the growth of existing means as well as reinforce them with new ones.

The satellite development program does not pertain to CNIE exclusively, but its leadership is unquestionable. It also concerns a number of national agencies which need information that can only be obtained using those space means. Thus, the coordination already established with the Subsecretaria de Ciencia y Tecnologia (SUBCYT), the Programa Nacional de Radiopropagacion (PRO-NARP) and the Instituto de Astronomia y Fisica del Espacio (IAFE) has resulted in the formulation of an interdisciplinary goal ratified by signing an agreement to implement the project in successive stages. The SUBCYT, acting as sponsor, and the other two institutions have coordinated with CNIE the development of a scientific satellite. Its first experimental prototype, denominated SAC-1 PE, will make it possible to collect space information applicable to practical technologies that nowadays are beyond our reach and which generate a series of subjections and restrictions of dubious solution. The structuralization of the methodology to be followed undergone in developed countries and the work in concurrent disciplines, undertaken by CNIE and other associate institutions, make up the basis which must be continuously enlarged in quantity and quality. The planning out of a well thought out program with long, medium and short term goals is an imperative. This should start with the acquisition of immediate theoretical knowledge and conclude with its implementation and the exploitation of the results obtained.



Thus, CNIE has outlined a plan for initial action to meet the general purposes of any scientific-technological program. To begin with, a solid structure based upon the so-called satellite sciences and techniques was shaped, suited to ul- by the project throughout its development completes by this agreement.

The importance of the fundamental step we intend to take in the field of space research transcends its mere scientific and technical expression. The possibility of having a complex system of our own in space even though the date has not been defined yet, has a political sense whose consequences cannot be ignored. Nowadays there are few countries possessing that capability and some even depend on third parties as regards the carrier, the satellite platform or both the main elements, thus establishing different ways of dependence which is not our purpose to evaluate right now.

These considerations alert us about the imperative need to determine, in advance, the characteristics of the launcher and the satellite vehicle, as well as the practical goals of the system to be designed. In the Argentine instance, which is no different from similar ones, both PRONARP and IAFE have already detailed the minimum requirements for the design of the orbital element and its sensors. The Radiopropagation national agency has proposed research on the magnetospheric and aeronomic processes participating in energy decay and the propagation of disturbances from high latitudes towards the Equatorial region. The data to be collected will enable a better understanding of the general dynamics of the atmosphere, specially that of our hemisphere. At the same time said agency envisages the study of the conditions of transionospheric radio propagation of HF signals and in the lower VHF, as well as the effect of magnetospheric-aeronomic disturbances on them. These purposes will materialize by using the following techniques: high temporal resolution of neutral and ionic composition, precipitation particles spectra and high precision in the geomagnetic field at satellite altitude. The information thus obtained through the satellite would be complemented with data to be collected at ground stations set up throughout our territory and some subcontinental countries. The satellite is also expected to transmit beacon signals to ground stations as well as to receive HF emissions from them.

IAFE intends to perform the study of the energy gamma radiation spectrum ranging from some hundreds of KeV to about 8 MeV, which can be observed during some solar flares. This work is associated to the acceleration of protons, other nuclei and electrons up to very high energy during flares and their interaction with nuclei species of the solar atmosphere. For that purpose the main experiment is to include a system of actively collimated inorganic scintillators, and spectra will be obtained with a 128-channel resolution within the range considered on variable integration times. The neutrons will be detected by a plastic scintillator and distinguished from gamma radiation by their temporal behavior. The auxiliary experiment is devoted to the observation of the emission of hard X-radiation up to around 200 keV, with low spectral resolution, whereas continuous monitoring will also provide a measurement of the incidence of ionizing radiation on the ionosphere during flares.

The capability to develop this cycle of experiments will give rise to a series of invaluable benefits for our scientists. They will be able to obtain the

desired data at the right time and without restrictions, as a direct result of the operation of a domestic satellite. The concordance thus achieved would automatically place us in a preferential situation to develop new work and programs with a national criterion, while our researchers would be able to continue research at a much higher level than the usually attained under the dependence on third parties. It is important to adjust the scientific mission to the national reality, avoiding all kind of appealing digressions which appear in unknown fields. The preliminary specifications already outlined fully respond to that sound concept because they are within today's technical feasibility. However, the configuration of a satellite system with specific purposes is not simple, and requires that many points be accurately defined.

Any design to be proposed must be oriented to a reasonably close launching date and, in order to achieve a satisfactory economy, common elements must be considered which will enable the subsequent evolution towards a satellite family. This idea could be efficiently developed if the service module and the payload are prepared with a view to fulfilling the longer term objective. Nevertheless, any design to be finally approved shall be highly reliable and have a long service life, a minimum orbital mass and low consumption.

Another aspect to have in mind in the design is that the engineering of the space segment must be capable of enabling maximum technological transference, so as to promote a growing national integration. These design criteria must conform to certain patterns of configuration and dimensions of the system, to the time required by the study and implementation stages and to operation reliability.

With relation to the first point, the experience already acquired by CNIE in system research and development finds a fruitful application field in the satellite project. The use of the expertise acquired by our institution in the last twenty years offers the option to begin with a modest structure for the space and ground segments, without detriment to its behavior as an operational system. That is why the basic satellite must be small in order to be launched by means of an inexpensive vector of the Scout types. The orbit planned for that first satellites should be low, quasi polar, but envisaging a maximum possible coverage of the national territory; this determination will enable the tracking subsystem to reduce its size and complexity. As regards the ground segment, it should be integrated by a standardized tracking, telemetry and command station, compatible with NASA unified S-band and by a data acquisition and processing station adapted to current CNIE installations.

The time required to put such satellite system in operation will depend on the time required for developing and testing it; but anyhow it will have to be short enough for the project not to become unattainable or be set aside. No matter how carefully planned and minutely implemented the system design needs to be, we understand that the completion of the project cannot take longer than eight years as a maximum allowable limit. In order that the search for system reliability do not affect the development time, the use of space well-proven components is advisable, at least during the first stage of the satellite system. In those vehicles the duplication of equipment and systems give origin to strong overloads on the whole, and therefore it is convenient to increase correct operations probabilities by reducing the mobile parts.

To propose a theoretical concept is an intellectual work requiring a great deal of creative and analytical effort; but the practical achievement of an expectation requires confidence in the design, continuity in the undertaking, decision and lasting enthusiasm. The national satellite project needs all that, and we believe that its materialization will find well-prepared ways to face the commitment that the whole country will assume when the proper political decision gives the starting signal to those responsible for turning the project into a gratifying reality.

In a general way, the total process for achieving this objective has been divided in four principal stages, with definite goals to be attained at the end of each stage. For example, the first stage--of a conceptual and exploratory order--will conclude with the selection and appointment of the main contractor. Within that stage, the availability of appropriate technologies, the feasibility of schematic designs, the tentative program and the outline of the proposed project will be analyzed. The answer to these analysis will generally define the system as a function of programs, costs and basic characteristics, as well as the forecast for probable development.

Once all the proposals have been submitted the period for concept materialization will begin among manufacturers who are willing to present their own particular solutions; this period will finish with the selection of the contractor as a result of the interaction of tasks concurrent with the process itself. It may not be an exaggeration to say that this might be the most difficult stage, because the decisions to be made will only be probabilistic and elaborated with techniques of difficult simulation and formulation.

The second stage--development--will be completed with the decision to begin production, but it might be advanced for extraordinary reasons such as the delivery program and the availability of launcher at a given time. Throughout the implementation period, the projected product will become a finished and certified product, but it will not be exempted from undergoing changes while the definition of the system and sub-systems and the certification tests are made. The acceptance of the definition is generally a technical stage in which the compliance with the specifications is controlled before deciding on the continuation or modification of the system.

In the third stage--production--the emphasis will be concentrated on aspects other than the technical ones governing previous phases. It will cover certification of the first production element, and efforts will be directed to other areas, such as the financial one, which often conditions the continuity of the project. Unless important changes are intended to be made on the project--which is unlikely during this phase due to the advanced state of development--decisions to be taken will be considerably less complex than previous ones.

Any attempt to change the project under execution may involve the risk of adding a fourth phase to the satellite system design--post-development--because of the need to adopt a complementary action program. For instance, a wish to reduce production costs would probably give raise to the wish to improve performances and the initial version of the product, a fact which would bring about new analyses--though briefer--of previous stages.

It is convenient that a process of permanent feedback exist that may introduce new technologies and materials already tested to simplify the construction of payloads, the satellite platform and the ground segment. But it must not be forgotten that decisions made during the conception, design and materialization stages have to keep certain stability in order to attain the main objective in a precise term.

Summarizing, the national participation in space research and in the exploitation of results may be carried out in two ways: the total dependence on other states which provide basic information according to their own interests, and the effort undertaken on a domestic basis which does not exclude foreign cooperation and technological support freely negotiated.

CNIE has a long experience in this subject where it has chosen the second way with great success. The project of an Argentine satellite modestly confirms that once again and at the right moment, we will attend the launching of an unprecedented program in our country which will obviously increase our prestige in the international community.

CSO: 5500/2323

## INTER-AFRICAN AFFAIRS

### BRIEFS

INTERNATIONAL MICROWAVE NETWORK--Work on the construction of a microwave network to link Zambia, Zimbabwe and Botswana has started. Norwegian vice-consul, assistant representative in Zambia, (Isak Helseg), has said that the construction of the infrastructures, like towers and roads of the microwave network to link the three countries, started early this year in Zimbabwe and Botswana. An agreement paving the way for the implementation of the microwave network to link Zambia, Zimbabwe and Botswana was signed in April this year by Norway and Sweden, who are undertaking the construction work on one hand, and the three governments on the other. Mr (Helseg) said that work on the construction of the microwave network was going on according to plan, and that it was expected to be completed in March 1984. [Text] [MB190614 Lusaka Domestic Service in English 1800 GMT 11 Aug 82]

CSO: 5500/5890

BRIEFS

NEW LINES SLATED--The African Development Bank (ADB) has approved a loan of 10 million units of account (or Fr CFA 3,473,960,000) to our country to finance the Plateau III telecommunications project. The project is designed to improve the quality of telephone services and to fully satisfy demand for telephone services in the region extending from the Plateau to Abidjan by creating a new, 10,000-line electronic telephone exchange. This investment is deemed sufficient to meet demand for a number of years. The project will also facilitate completion and improvement of the local distribution network by means of cables in the Plateau region known as Plateau III. The project includes: creation of a 10,000-line telephone exchange; completion of a local distribution network by means of cables; provision of 10,000 telephone units; building up a supply of spare parts and acquisition of testing equipment and various tools. The loan, which was signed yesterday morning by Abdoulaye Kone, the minister for economic and financial affairs, and Donatien Bihute, acting president of the ADB, is to be paid back over 15 years, including a 5-year grace period. [Text] [Abidjan FRATERNITE MATIN in French 29 Jun 82 p 1] 9516

CSO: 5500/5863

## MADAGASCAR

### BRIEFS

MICROWAVE NETWORK INAUGURATED--Tomorrow, 26 June, is the eighth anniversary of the revolution, but also the 22d anniversary of independence. The Democratic Republic of Madagascar celebrates this event in full recognition of the numerous great achievements that have been realized. The most recent, the "microwave line for southern Madagascar, the most modern in Africa and O.I. [Indian Ocean]," was inaugurated yesterday at Mananjary by PRESIDENT Didier Ratsiraka, who took the opportunity to give special thanks to France, not only because of the part it played in making this project a reality through CCCE [Central Fund for Economic Cooperation], FAC [Aid and Cooperation Fund], and COFACE [French Insurance Company for Foreign Trade], as well as the CSF-Thomson Company, but also because Mitterrand's France is helping us in every field of endeavor, and more recently has played a substantial part in the aid the "friends of Madagascar" have decided to provide. The Fianar-East Coast-Tolagnoro-Toliara microwave line cost 6 billion Malagasy francs. It is a fine project, providing the region with television live from Tana (an example of successful decentralization) and also making it possible for people to communicate better, thanks to several hundred telephone or radio networks. [Excerpt] [Tananarive MADAGASCAR MATIN in French 25 Jun 82 pp 1, 6] 9516

CSO: 5500/5863

NEGOTIATIONS FOR BOPHUTHATSWANA TV STATION REPORTED

Johannesburg THE STAR in English 27 Jul 72 p 9

[Article by Jaap Boekkooi: "'Outside' TV on its Beam Ends"]

[Text]

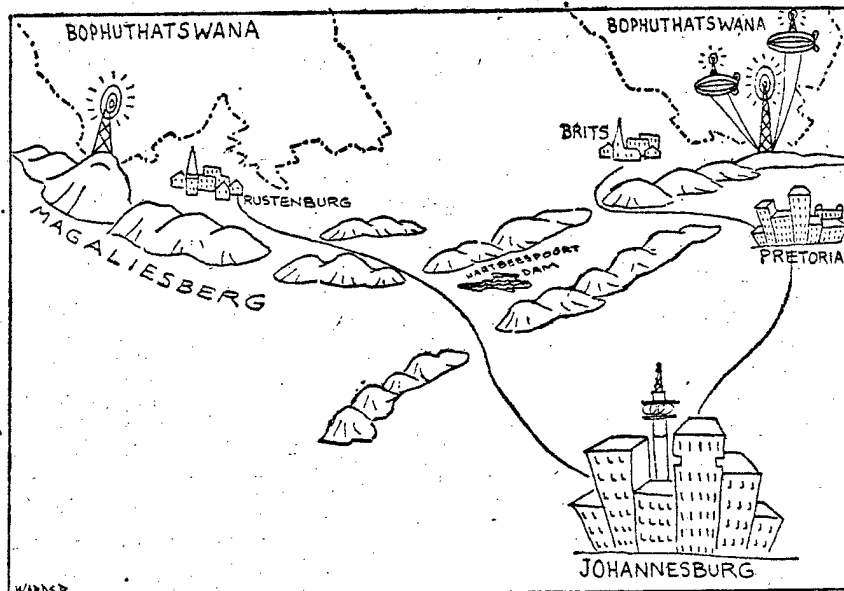
The big issue to be negotiated before an independent Bophuthatswana television station can start beaming to the Rand is a high transmission site, presumably in the Magaliesberg.

This is one of the reasons why negotiations between the governments in Mmabatho and Pretoria are delicate.

It is believed that all feasibility studies made for the Bophuthatswana Government on the question of beaming a commercial television service to the lucrative Pretoria-Witwatersrand market have had negative results.

This is because Bophuthatswana does not have any high ground from which transmissions could be made.

Schemes to transmit from a 700 m concrete tower at Garankuwa, which would be the tallest in the southern hemisphere, or from blimps anchored to the ground, have been found impracticable.



The scene showing the struggle for an independent Bophuthatswana television service. After studies showed that transmissions from a 700 m tower at Garankuwa, or a blimp (airship — right top) were too costly, impracticable and dangerous to aircraft, the Tswana state now opts for a mountain-top site to beam its TV to the Rand and Pretoria. One high mountain adjoins Bophuthatswana west of Rustenburg, a possible site for a large transmission mast.



The concrete mast would cost R30 million to build today, a steel mast would be crushed by its own weight, and blimp transmission beams would be off target if the airship moved in high winds. These systems would also interfere with aviation.

Since then Bophuthatswana has been eyeing a mountain site on its borders. This can only be in the Magaliesberg.

A site here, to be bought from, or exchanged with the South African Government, would enable a Bophuthatswana TV station to beam its own programmes to Pretoria, most of Johannesburg and the East and West Rand.

Before independence in 1977 Bophuthatswana contained land on the Magaliesberg. But this fell away during further land consolidation negotiations with

Pretoria.

In return for a Magaliesberg mountain site, Pretoria may set conditions.

The South African Government has many aces up its sleeve:

- Bophuthatswana can obtain a TV frequency only through the Post Office, which is the regulating authority of frequency allocations in Southern Africa.

- South Africa has the power to grant or withhold relay and satellite facilities.

- Since the South African authorities can, through the Bureau of Standards, regulate the number of TV aerials on one roof, they could stop viewers installing second aerials to receive Bophuthatswana.

- The South African Government could demand control of programmes if the station hopes to attract more viewers with less-censored programmes.

CSO: 5500/5889

## BRIEFS

R&D EXPENDITURE--SOUTH Africa's expenditure on research and development was 0,2% of the world total, Dr C F Garbers, the president of the Council for Scientific and Industrial Research, said in Pretoria yesterday. Opening the 13th International Symposium on the Chemistry of Natural Products, he said that in the year 1979-80 world spending on research and development exceeded R142 000-million. South Africa spent R345-million in the same period. However, small as it was, South Africa's effort was not insignificant, he added. In spite of limited investment in research and development, South Africa with a population made up of First World and Third World communities, was challenged by enormous problems. "At present 13 500 000 people are urbanised in a country where water is scarce and it is estimated that a further 20-million people will have to be urbanised, mostly in the northern parts of the country, before the turn of the century," Dr Garbers said. Large-scale industrialisation, creation of jobs, water reclamation and the providing of sufficient food could exert tremendous pressures on the country's fauna and flora, he said. Concerted efforts were needed to preserve the country's proud heritage for future generations. [Text] [Johannesburg RAND DAILY MAIL in English 3 Aug 82 p 2]

TERMS OF ELECTRONICS PROBE--AS forecast by Business Times last week, the Minister of Industry and Commerce, Dawie de Villiers, has launched an investigation into the electronics industry. According to the Minister: "The Board of Trade is to undertake with the assistance of experts from the industry a broad investigation into the electronics industry and to make recommendations in regard to: --The development potential of the electronics industry. --The question whether the electronics industry, or specific sections thereof, should be encouraged, bearing in mind the net potential contribution of the industry to the economy, and, should this be desirable, what the form of such encouragement should be. --The creation of possible structures or bodies to implement any such recommendations of the Board of Trade and Industries with a view to promoting the development of the electronics industry." [Text] [Johannesburg SUNDAY TIMES-BUSINESS TIMES in English 1 Aug 82 p 3]

CSO: 5500/5888

ZAIRE

BRIEFS

FRANCE TO PROVIDE TRANSMITTER--The Kinshasa television transmitting station will be functioning again very soon. A 10 kilowatt transmitter will soon be installed. A sum of Fr 5.5 million will be released for this under an agreement signed between the executive council and the French Government. This is one of the three financial agreements involving a sum of Fr 10 million to be granted to Zaire for the implementation of a number of projects within the framework of bilateral cooperation. The second agreement provides for an aid of Fr 3.5 million to be used in equipping workshops, training personnel and providing technical assistance at the Industrial Technical Institute at Maluku and in Kinshasa. The third agreement involves a sum of Fr 1 million which will be given to the planning unit of the Ministry of Agriculture, rural development and environment. [Text] [AB191247 Kinshasa Domestic Service in French 1130 GMT 19 Aug 82]

CSO: 5500/5892

## BRIEFS

DIRECT TV--The Media Policy Committee, gathering experts from the 21 member-countries of the Council of Europe, met in Paris on 26 May, under the chairmanship of Bernard Blin (TF1), to discuss problems involved in television by satellite. Papers were prepared by a working party composed of experts from Austria, Denmark, France, the FRG, Luxemburg, the Netherlands, Sweden, Switzerland and the United Kingdom. The group was received by the European Space Agency, the CNES [National Center for Space Studies], and the SNIAS [National Industrial Aerospace Company]. Technical data collected by the working party will provide the basis for the discussions by the Committee of 21 on problems such as the following: the impact of direct television by satellite on existing media structures and on spillover; advertising on television by satellite and the impact it could have on the advertising resources of the existing media (printed press, for example). This work received new impetus from a decision made by the foreign affairs ministers of the 21 member-countries of the Council of Europe at the end of April, following a proposal by the West German Government. The ministers felt that the Council of Europe offered an appropriate forum to work out a common approach to direct broadcast satellites. Next November, they will be receiving a report on the possibilities of solving these problems in Europe and on the legal instruments needed to implement the measures involved. [Text] [Paris AFP SCIENCES in French 27 May 82 p 16] 9805

CSO: 5500/2291

PLANS, OUTLAYS FOR SPACE SATELLITE PROGRAM

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 15 Jul 82 p 4

[Text] Bonn, 14 July--According to Federal Research Minister Buelow, the fourth German space program approved on Wednesday by the Federal Cabinet is quite good in regard to its financial support and with a view to its chances for success. As for the level of German space research, so states the program, in an international scientific comparison it has the "status of equal partnership." A leading position has been achieved in solar research, as in other technical areas, through the special program "Helios" being carried out together with the United States. Von Buelow points out that the DM 3.9 billion foreseen for the program through 1986 is just about equal to the public expenditures for space travel in France and Japan, each of which plans to spend the equivalent of DM 1.1 billion annually.

The Federal Government puts the emphasis in its support of space technology on basic research and in the further improvement of proven satellite developments for communications and earth observation. The support measures by the Research Ministry are accompanied by the planned participation of the Federal Postal Administration in the development and construction of the television satellite with DM 70 million in each of the years 1984 and 1985. Buelow also praised the participation of the Federal Postal Administration in space projects in the case of a planned telecommunications satellite. The progress with satellites is also apparent from the fact that the FRG will take part in a program involving operational meteorological satellites of European weather services.

The new program attests that the German space industry appears to have achieved for itself a "leading position" in the case of radio satellites built in cooperation with France. The chances seem good for commercial export of complete satellite systems. The fundamental contractual prerequisites have now been created for the building of the German-French TV-satellites SAT and TDF (1985).

The European space laboratory Spacelab built with German cooperation is to be sent into space by means of the American Space Shuttle in 1983. Candidate astronauts are even being sought for the first Spacelab mission totally under German control planned for 1985.

9746

CSO: 5500/2305

FRANCE

## PTT TO OPEN FIRST PROFESSIONAL TELEMATICS NETWORK

Paris ELECTRONIQUE ACTUALITES in French 11 Jun 82 pp 1, 8

[Article by D. Levy: "PTT Opening Professional TELETEL Service in October"]

[Text] It is under way! Beginning this October, professional telematics becomes operational throughout the country. PTT has just announced the terms and conditions that will govern the marketing of this professional "Teletel" service, which will involve two types of facilities: "Minitel" terminals and the Teletel access network to videotex transmission centers; the network will have 1,000 Videopad-type ports by the end of this year.

Professional demand appears to be very strong, since PTT is planning to provide some 20,000 terminals to some 100 enterprises during the fourth quarter of 1982, amid projections of 80,000 to 100,000 installed Minitel terminals by the end of 1983. Beginning in 1984, the Teletel network will be improved through the putting in place of videotex access points that will accept "Architel" protocols.

In addition to "general-public" telematics service, tested by way of the Velizy experimental setup, and "group" telematics service, put into operation mainly at Nantes and Grenoble, there is now to be also a "professional" telematics service, which is of special interest to banks and financial establishments, the press and publishing houses, farming and large industrial and commercial enterprises (including the automobile sector).

Attesting this interest was the meeting of some 400 persons in Paris on 28 May for a briefing on terms and conditions under which PTT will make professional Teletel service available. The meeting enabled telematics officials of the DGT [General Directorate for Telecommunications] to announce the opening of the access network to Teletel, to explain in detail the applicable terms, conditions and tariffs, as well as those applicable to the lease of Minitel terminals. The purpose of this briefing was to enable the interested enterprises and administrations to plan their investments taking into account the availability of a professional telematics service.

### Advent of 'Architel'

The opening of professional Teletel service this October will be made possible by the putting in place of an interim network of Telesystemes TSL 230 concen-

trators. The DGT has ordered some 100 units of this type, the installation of which will be echeloned over a period of 6 months beginning this September. By the end of this year, some 40 Teletel access points to Transpac will cover the major French economic regions, making available to users of the service 1,000 access ports (each concentrator has a capacity of 24 channels). This interim Teletel network, based on Videopad-type access points and compatible with X-29 protocol, will be supplemented by the upgrading of some 50 other concentrators that are currently in place. This upgrading, which will consist of adding new functions such as remote program loading, etc) will be done by Telesystemes.

The first public Teletel network will thus have, during the first quarter of 1983, 150 concentrators covering the entire country. PTT has assured its future clients that the service being offered via these Videopad access points will continue in operation at least until 1985-1986. Beginning in 1984, however, this interim network will be supplemented by videotex access points that will be more "accommodating," in that it will then be possible to use "Architel" protocols.

Architel responds to the DGT's concern with interfacing. The networks currently in place for the Ile-et-Vilaine electronic telephone directory, the Velizy experimental setup and the Videopad access points, all use different architectures. The DGT's aim is to merge these three networks. Architel protocols (7 levels) will be extended gradually to cover all telematics services, in conformity at all times with the work being done on standardization by the CCITT [International Consultative Committee for Telephone and Telegraph] and the ISO [International Standards Organization]. Detailed information has just been released by the DGT on videotex access points, making Architel operational.

Thus, beginning in October, the subscriber to professional Teletel service will be able to access the network by paying a basic charge for the telephonic connection between his Minitel terminal and the Teletel access point, regardless of duration of the call and the distance from the access point. The beneficiary of the service, for his part, will be charged for the cost of the communication over Transpac at a fixed rate (regardless of the distance between the Teletel access point to Transpac and the transmission center) of 6.6 centimes per K-byte (the equivalent of a full screen) and 14 centimes per minute (1.1 centime at the promotional tariff in effect until March 1983).

As regards Minitel terminals, users will be able to procure them either from the PTT--which, for the time being, will market only the Telic basic version at 70 francs per month at all Telecom sales offices and all Teleboutiques--or directly from the manufacturers (who will offer a range of models). It is recalled that, in those regions where the electronic telephone directory will be installed, the cost of the Minitel terminal is included in the normal charge for the telephonic service involved.

9238

CSO: 5500/2296

CONSULTATION WITH OTHER NATIONS EXPECTED BEFORE UIT CONFERENCE

Paris REVUE FRANCAISE DE TELECOMMUNICATIONS in French Apr 82 pp 23-24

[Article: "International Cooperation"]

[Excerpts] "Telecommunications knows no national borders." What today seems so obvious took more than a century to become so and only at the price of a constant effort at bringing into harmony the customs and interests of all nations. Today, the growth of trade and the continuing advent of new techniques render more essential than ever the role of the international telecommunications organizations, one of the leading ones among them being the UIT [International Telecommunications Union]. France takes an active part in it.

As a founding member, France participates in this organization at all levels. Jean-Paul Duplan, assistant head of the French PTT's Directorate of International Affairs, makes an emphatic point of this: "French experts attend all UIT meetings, no matter what the subject may be: telephony, telegraphy, radio, telematics and new services; a Frenchman is one of the 36 members of its Board of Directors; and a number of our compatriots are on the UIT's permanent staff, although, for the past several years, they have tended to cede positions to the nationals of lesser developed countries."

France also participates from the financial standpoint: In 1981, France contributed 11 million francs, or 7 percent of the organization's funding for that year, a contribution equal to that of the United States and to that of the Soviet Union. Its contribution, like that of the other member countries, will be even higher in 1982.

The next plenipotentiary meeting will be held at Nairobi, Kenya, from 28 September to 5 November 1982. This could provide an opportunity to once again modify the Convention, taking into account the recent evolution of needs and of techniques. In this regard, France expects to consult with other nations, particularly in Europe, before deciding what its position will be. Be that as it may, all indications are that the Nairobi meeting will increase the domain of the UIT's activities.

In particular, the Conference could decide to integrate into the UIT's budget the expenses incurred under the heading of technical cooperation with the lesser developed countries; at present, this task is accomplished under the UN Program for Development. According to Francis Thabard, French PTT director of industrial



and international affairs, certain nations would very much like to bring about major changes in the UIT's financial administration and operations. "But," he adds, "what is important to us is that our country act in concert with its European partners. Our aim is to make of the UIT as effective an instrument as possible and capable of receiving the backing of a maximum number of nations."

Actually, it is very difficult, in an international body, to bring about a unity of viewpoints; for, the problems of the lesser developed countries are very different from those that have to be met by the "richer" nations. Whereas the latter seek to work on the definition of standards for the new technologies, the former are interested above all in economic solutions that are immediately applicable to their networks. For example, it is not a rare thing for the choice of a switching technique to be made on the basis of apparent ease of implementation rather than on one of modernness or of better practice.

Be that as it may, it is essential that the member nations be able to make their voices heard despite the handicap that a lack of money and of qualified personnel represents for most of them. It is equally essential (and France sees to it) that the aid given them not be limited to the drawing up of projects and reports.

#### Regarding Common Standards

The UIT's other fundamental task, at the present time, is the putting in place of common standards for telecommunications components and equipment. To this end, France maintains constant contact with the specialized committees of the UIT: The CCITT [International Consultative Committee for Telephone and Telegraph] and the its analog for radio, the CCIR [International Consultative Committee for Radio]. Says Francis Thabard: "We must eliminate the obstacles that prevent computers from talking to each other and machines from working together as efficiently as possible."

Telematics is actually advancing so rapidly that one sees appearing on the market equipment of many types whose specifications are incompatible. Certain manufacturers hope in this way to create a "captive" clientele they can tie to their own standards. In the interest of the users as well as that of industry, France intends to prevent such a fragmentation of the market.

The case of videotex is a good illustration of the difficulties stemming from too rapid a mushrooming of new techniques. In "Little Europe" alone, three different countries have developed their respective systems: The FRG (Bildschirm-text), France (Teletel/Antiope) and Great Britain (Prestel). "We could have found ourselves," says Francis Thabard, "in a situation analogous to the imbroglio produced a few years ago by the rivalry between color television systems, a situation that ended in the retention of a French "Secam" and a German "Pal, neither of them compatible with the other. The members of the UIT are determined to avoid a repetition of such mistakes."

France's efforts are aimed now at achieving a compromise between Europe and North America. AT&T has just published specifications for a videotex system common to the United States and Canada. It would be desirable that this "American-style" videotex become compatible with European systems, which are less perfected but also less costly."

The UIT has undertaken to address this problem, the urgency of which it acknowledges. The definition of new standards, however, always takes time, since they must also be made compatible with existing standards while taking into account of future evolutions that are likely to occur: A compromise must be found between innovation and standardization. It is also necessary that enterprises recognize the importance to their own interests of achieving general understanding.

To convince oneself of this, one need only observe the attitude of the manufacturers of videocassettes, whose sales are being seriously hampered by a lack of agreement among them on standards... This is why France is carrying on a campaign in the international forums for abandonment of "feudal" attitudes and the adoption of international specifications, which would be advantageous to all.

9399

CSO: 5500/2297

## FRANCE

### NEW REPORT ON TRANSBORDER DATA FLOW PUBLISHED

Paris ZERO UN INFORMATIQUE HEBDO in French 14 Jun 82 p 2

[Article by Jean Porracchia: "Published by Documentation Francaise: Transborder Data Flow"]

[Text] Since time immemorial, human beings have carried on international exchanges of information without it having the least bit perturbed anyone. Today, governments and administrations, enterprises and associations, and physical persons exchange daily hundreds of thousands of letters, telex messages, telephone calls, newspapers and books, television and radio broadcasts, movies, and microfiche, which cross national boundaries. The commonplaceness of telecommunications networks today is introducing a real change in the nature of relations between nations, especially since it is at the same time contributing to a substantial growth in the realm of intellectual activities. The products thus being exchanged, taken as a whole, are categorized under the general heading of information or "data."

In November 1978, the government appointed a commission to study the problems posed by "incorporeal" exchanges. The report submitted by the chairman of this commission, in July 1980, has just been published under the title "The Transborder Data Flow: Towards an International Economics of Data?"\*

The lack of knowledge concerning the transborder flows of data--as regards their extent and nature--is all the more perturbing in that it signifies a lack of control over them. All that is known is that they are growing at an exponential rate.

The number of specialized telecommunications links as of 1969 totaled some 30,000 as compared to over 121,000 in 1978. The growth of transborder exchanges of intangible assets--still according to the "Madec Report"--has been at four times the rate of that of material assets since the start of the century.

#### Risk of Blockade

What kinds of assets are being sold or ceded, to whom, where and at what price? Neither the nation's general accounting system, nor the balance of payments, nor

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\* The "Computerization and Society" Series published by Documentation Francaise.

customs nor internal revenue statistics are able to provide an answer to these questions. This neglect is giving rise to concern, even though it is clear that transborder fluxes are benefiting and will continue to benefit considerably the world collectivity.

In the domain of cooperation with respect to exchanges of scientific information, what would be the future of a nation were it to isolate itself from the potential of foreign innovation?

In the face of the ongoing globalization of firms, any embargo or blockading of data fluxes would moreover constitute an act of economic war.

Lastly, and above all, the free communication of messages and opinions is essential from the standpoint of democracy, on pain of infringement upon the freedoms of expression and of circulation of information.

On the other hand, however, there is no denying the risks being generated by the rapid growth of international data flows.

The author of this report cites the principal ones:

--Illegal use of the data being transferred abroad, which could seriously affect the freedom of citizens, their right to privacy in the conduct of their lives, the probity of transactions or the security of the state;

--Social vulnerability: Were there to occur a failure on a "telematics network" (interruption of flows, processing stoppage, alteration of files or of software), a natural catastrophe or sabotage, a state that had transferred data abroad would find itself deprived of all proof of sovereignty over it. The thought follows that "data havens" identical to "tax havens" could easily be set up; it would take no more than the addition of a few supplementary bytes of memory....;

--The threats to cultural identity that could emanate from dominant positions and "dumping" practices in the "culture industries," involving data banks and publishing;

--Another danger: The subsidiaries of multinationals are generally considered to be subject to the juridical order of the host country, but also to that of their head office. Does it not follow that encroachments on foreign norms can reasonably be expected to occur in the application of laws outside their geographic jurisdiction?

--If specialization of production and globalization of markets were to continue increasing with the growth in telematics networks, would the multinational systems not extend their ascendancy over states (considering that, today, remote data processing can be used to create Eurodollars anywhere at all, by way of any computer whatever in any corner of the world whatever).

## A Juridical Base

Based on these considerations, the "Madec Report" argues that France should strengthen its control over the telematics network, promote source-data-productive industries and develop understandings with the enterprises regarding their internal computerization procedures, and lastly, create a juridical infrastructure to underlie its data economy, a topic to which Pierre Leclercq, doctor of laws, devotes a chapter titled "Essay on the Juridical Status of Data" in this book.

### [Boxed insert]:

Whereas the Law of 11 March 1977 authorizes under paragraphs 2 and 3 of Article 4f, on the one hand only "copies or reproductions strictly limited to private use and not intended for collective use," and on the other hand only analyses and brief citations for purposes of examples or illustration, "any representation or reproduction integrally or in part made without the consent of the author or of his or her beneficiaries or assignees, trustees or executors is unlawful (paragraph 1 of Article 40), and such representation or reproduction, by any method whatever, shall constitute an infringement punishable under Articles 425 et seqq. of the penal code.

9399

CSO: 5500/2297

FRANCE

INTEGRATED SERVICE TELETETEL GIVES EVALUATION OF PROGRAM

Paris REVUE FRANCAISE DES TELECOMMUNICATIONS in French Apr 82 pp 47-49

[Article: "Teletel 3V: Initial Evaluation"]

[Excerpt] Inaugurated on 9 July 1981, the 3V (Velizy-Versailles-Val de Bievre) experiment lets 2,200 volunteer households "dialogue" with a number of services: Some services provide daily news, others a reservations-at-home system, still others a guide to rights and how to obtain them, an electronic message service, games... Its aim is to test the "real-life" prospects for Teletel, a telematics facility for the general public. Planned initially for a duration of 18 months, it is now at the half-way mark and has undergone an initial evaluation...

One-Third of All Calls Are to the Press

As of the date of this first evaluation, several types of services are not yet in place, such as aided-teaching programs that have been specially developed by the Ministry of National Education, or at-home-transaction systems, or remote payment systems; for the latter, 300 credit-card readers that can be plugged into Teletel terminals will be installed for users between now and the end of 1982. The opening of such services could bring about a change in traffic patterns and distributions. This constraint should be borne in mind in reviewing the statistics of the first 9 months of this experiment.

Since the date in October 1981 when all the households in the "basic sample" were wired in, the use of Teletel has remained very stable. Each terminal sends, on average, two calls per week, of 13 to 15 minutes' average duration per call, involving three or four services; some 30 calls per month for services are thus originated by each terminal.

The programs offered by the press are more called for than any others by a very large margin (Table 1 [not given]): JOURNAL ELECTRONIQUE FRANCAIS alone, compiled jointly by the press organizations, gets between 15 and 20 percent of all calls, and the average duration of these calls is twice that of all calls; it includes--besides news--encyclopedic information, information of a practical nature and games.

The term "daily press" warrants clarification. It covers two very different "products," one received via hard copy and the other on the Teletel screen. A newspaper via video screen is obviously harder to skim through, as the viewer's eyes cannot skip from one article to another at will, and one cannot take one's terminal aboard a bus. The hard-copy daily, on the other hand, has no memory: It will not carry, for example, last year's legislative election results, or past gold price changes on the Paris Exchange; this type of historical data is provided by Teletel; also, PARISIEN LIBERE will offer at Velizy what it cannot provide in written form: Data banks on different sports and the full complement of advertisements by the National Federation of Real Estate Agents (over 15,000 ads under six classified headings).

Nor does the hard copy provide a means of accessing multiple listings for the same item of information. Illustrative in this regard is the case of the weekly PARIS-SCOPE, which compiles directly from its film recording tapes an electronic magazine that is managed and distributed by the Didot-Bottin transmission-center computer; identical to the hard-copy magazine as regards its content, the electronic PARIS-SCOPE provides, through a documentation-type software, an immediate listing of the movie houses showing Jacques Tati films, of those at which one can see one's favorite actor or actress, of those showing movies for minors, etc. Furthermore, it is capable of interpreting the user's request even though the latter may have a very personal notion "uv spelin" ["ortograf"].

#### Soon, Remote Payment

Second to the press, it is enterprises offering service-oriented information, especially schedules and timetables, that receive the next largest number of calls. This type of service responds to one of the principal expectations on the part of the public. According to a survey made prior to the installation of the terminals in the homes of the users, the latter were looking forward to five preferential domains of application for Teletel, heading which was the furnishing of service-oriented information and updates together with commercially-oriented programs (mail order,...); next, ahead of information of a practical or how-to nature, came "culture-" and leisure-oriented information.

In this regard, the service provided by the SNCF [French National Railroads] is among the most valued. By means of minicomputers serving as interfaces, Teletel users can access directly the SNCF's information processing system; they can in this way know the timetables of the trains linking some 2,000 stations and reserve accommodations on the basis of 14 different parameters (class, smoking or not, compartment car...). However, in the absence of a means of remote payment, tickets must still be picked up at a station or a travel agency.

The Stock Exchange and financial establishments garner more than 6 percent of the calls. They offer general information concerning their respective activities and their products, as well as services to customers: Status of accounts, orders for checkbooks, calculations on loan and financing operations. In addition, the French Post Office Bank and the Regional Discount and Deposit Bank, in association with other furnishers of videographics services, are studying the development of a system of electronic funds-transfers and remote payment by credit card.

### The Statistical Sample

The Teletel 3V experiment has been evaluated by means of certain correlative surveys--traffic studies, and qualitative and quantitative studies based on polls taken--that will enable continued evaluation of the evolution of the attitude of households toward Teletel.

Distribution of Terminals by Class of Users:	Number
Basic sample	1,424
Other household installations	766
Total household installations	2,190
Schools	30
Providers of services or facilities	341
Promotional and technical	384
General total	2,945

Structure of Statistical Sample:	Percent
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By Socio-Occupational Category of Family Head:

--Industrial and professional	6
--Merchants and artisans	6
--Upper management	24.5
--Middle management	24
--White-collar workers	13.5
--Blue-collar workers	14
--Retirees	12

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The Statistical Sample  
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<u>By Age of Family Head:</u>	<u>Percent</u>
--Less than 30 years of age	10.5
--30 to 39 years of age	33.5
--40 to 49   "   "   "	26.5
--50 to 59   "   "   "	17.5
--60 years and over	12

By Composition of Household:

--Minors 12 to 14 years of age	22.3
--Minors less than 12 years of age	40.5
--No minors less than 15 years of age	37.2

Note: Minors, being generally less apprehensive toward innovation, frequently fulfill the role of initiators within their households.

Comparison of Traffic Among the Different User Categories

By Socio-Occupational Categories:

Category	Number of Calls per Month		Index	
	October	January	October	January
Industrial and Professional	23	30	80	86
Merchants and Artisans	32	40	112	114
Engineers and upper management	35	39	122	112
Middle management	27	48	92	138
White-collar workers	37	39	129	112
Blue-collar workers	27	31	94	89
Retirees	19	17	68	49
			100	100

By Age Categories of Minors in Household:

Category	Number of Calls per Month		Index	
	October	January	October	January
Minors 2 to 14 years of age	42	48	135	123
Minors less than 12 years only	31	38	97	97
No minors of less [as published]	22	31	69	79
			100	100

Together with the SNCF, the mail-order firms are among the most interested in such a system. To date, they have been communicating with purchasers essentially by mail or telephone. Teletel expands substantially the possibilities of dialogue. For example, the CAMIF, a purchasing center for members of the teaching profession, offers: A merchandise ordering service, announcements of bargain and clearance sales on merchandise, monographs on products and their use, servicing of customer accounts, credit information. The furnishers of this type of information are for the most part interested in putting in place an order-taking system. It should be noted, however, that the setting up of a true dialogue system requires in-depth studies on a larger sampling than the one represented by the users of the 3V experimental setup.

### A Very 'Convivial' Mailbox

While some of the enterprises involved in the experiment try diligently to exploit to the maximum the possibilities inherent in videographics, others seem to be content to "be there for the sake of being there" and not to consider Teletel as other than a sophisticated advertising gimmick. According to one user, "Certain services, after a pompously worded introduction, proceed to a display of dead-end information totally devoid of interest; others announce a forthcoming tombola for the 25th of the month that has already taken place on the 10th... These services do nothing but harm to the system as a whole." The project staff displays more optimism, saying "The bad programs will be their own undoing. Those that evolve the most and offer the best possibilities of dialogue will be the ones who receive the most calls."

The fact is that the most animate information is not being provided by any enterprise or collectivity, but rather by the users. By means of an "electronic mailbox" service, the latter can receive messages and address messages to one or more addressees at a time. As soon as they are plugged into Teletel, the Velizy information center advises them whether any "mail" has arrived for them since their last time they checked their "mailbox." After they have agreed to identify their terminal to the center and given it their password, they will see displayed on their screen the messages that have arrived from their suppliers, the PTT or other users. These messages can even be in "postcard" form, that is, text accompanied by a drawing that may be selected from a catalog of drawings ranging from an anniversary cake to a snow-covered mountain.

As of now, this message service, with 450 calls a day, is receiving 15 percent of all calls, although 40 percent of the users of Teletel have not bothered to subscribe to this service: Evidently, although Velizy is far from being a suburban dormitory town, many of its inhabitants know too few Teletel users to feel the need to subscribe to electronic mail delivery service. The 3V project staff deems that, as in the case of the telephone at its inception, the traffic of this service should grow in proportion to the square of the number of subscribers.

Mr Cayazzo, president of the AAT 3V [Teletel Subscribers Association] is particularly pleased with electronic mailbox service: "Whether it be matter of

announcing a meeting or of finding, say, a fourth for bridge, it is conducive to the development of associations of all kinds, relieving them of the difficulty of informing a large number of persons simultaneously." It has also enabled the forming of groups assembled on the spur of the moment on topics of the most diverse natures: One finds, for example, in addition to the inevitable cineasts and philatelists, a group of "early risers," and, of course, a group of "Teletel fanatics"; their members have all met each other by way of the electronic mailbox.

Associations are not the sole beneficiaries of this system. For the suppliers of information, it becomes a means of enhancing their contacts with their clients and other users, and of enabling to effect "mailings." As for the PTT, it uses the mailbox as a "suggestion box," inviting criticisms and suggestions.

#### A Continuing Creative Effort

For the 3V experiment to fulfill its role, it is essential that Teletel's "interactivity" be applied to the rationalization of its use. Three parties to it, three different viewpoints must be merged for the perfecting of the system: Suppliers of information, users and PTT. This has led the first two to form respective associations for the purpose of concerting viewpoints and effort within each group as a party and reaching agreement with the other two parties.

The aim of the AAT 3V, which presently has almost 500 members, is to ensure that the users take their due place in the three-way dialog. An arduous task, according to Mr Cayazzo, since "the users of Teletel--and this is inherent in the very nature of sampling--do not represent a homogeneous category: Some of them use their terminals regularly and abundantly; others, on the contrary, do not turn their equipment on except to show it to their friends..." The AAT 3V is endeavoring, therefore, not only to make known to the suppliers and to the PTT what needs to be done to improve their respective "service offerings," but also to make known to the users how they can take advantage of all the possibilities being offered them.

The project staff is also organizing visits to the users for exchanges of views and information and round table discussions. It also benefits from Teletel by way of the suggestion box mentioned above and through the magazine T 3V; this videographics magazine reports on the evolution of the experiment, and various suppliers of information try therein to interest users in the rubrics covered under a "topic of the month": Energy, the holidays, managing one's budget... The fact that each of these topics has generated more than 2,000 calls attests to the interest that exists in exploring in-depth the gamut of possibilities available in and through Teletel: A curiosity that, in going beyond mere interest in the tool itself, reflects a quest for improvement in the quality of day-to-day living.

After 9 months in operation, the Teletel 3V experiment has shown that the system is now technically in running order, with a call-completion rate of 96 percent. It has furthermore enabled the users and the suppliers of information services

to undertake jointly an exploration of the possibilities inherent in this new means of communication. While it has shown definite promise, and while the services it currently offers have proven that they can contribute amply to the simplification of daily life, to the limiting of useless wastes of time and energy, and to facilitating access to a broader range of information, it is still obviously a mere start. Clearly, the services currently available are far from being all ratable as perfectly tried and tested, and can certainly not lay claim to having exhausted all the possibilities of service to the general public that have been opened by interactive videotex.

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END